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GB 2181201 A GB 1146169 A GB 1009219 A

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(54) Heat shrink plastic/pipe/duct/conduit jointing couplers

(57) A Heat Shrink Plastics/Pipe/duct/conduit Jointing Coupler 2 is placed over the ends of the sections 1 to be jointed and is automatically centered by the annular integrally moulded internal flange.

Heat applied to the Coupler shrink-fits and forms the required seal to the joint 3.

The formed joint remains flexible when the completed installation may flex in service.

The ends of the sections to be jointed do not need any special shape or preparation.

In addition to the application for new installations, the Coupler can be used for damage repair situations and leaks (Figure 3, 10, 11, 12, 13).

FIGURE 1.

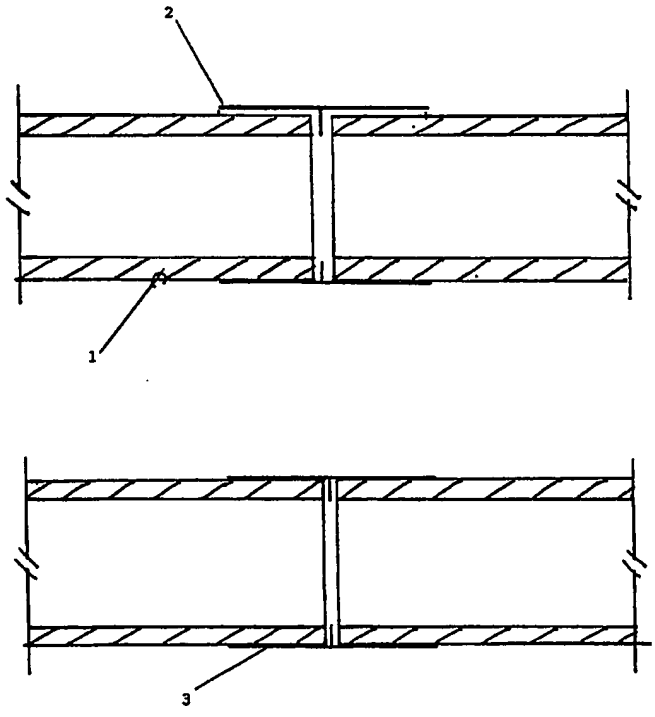

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FIGURE 1.

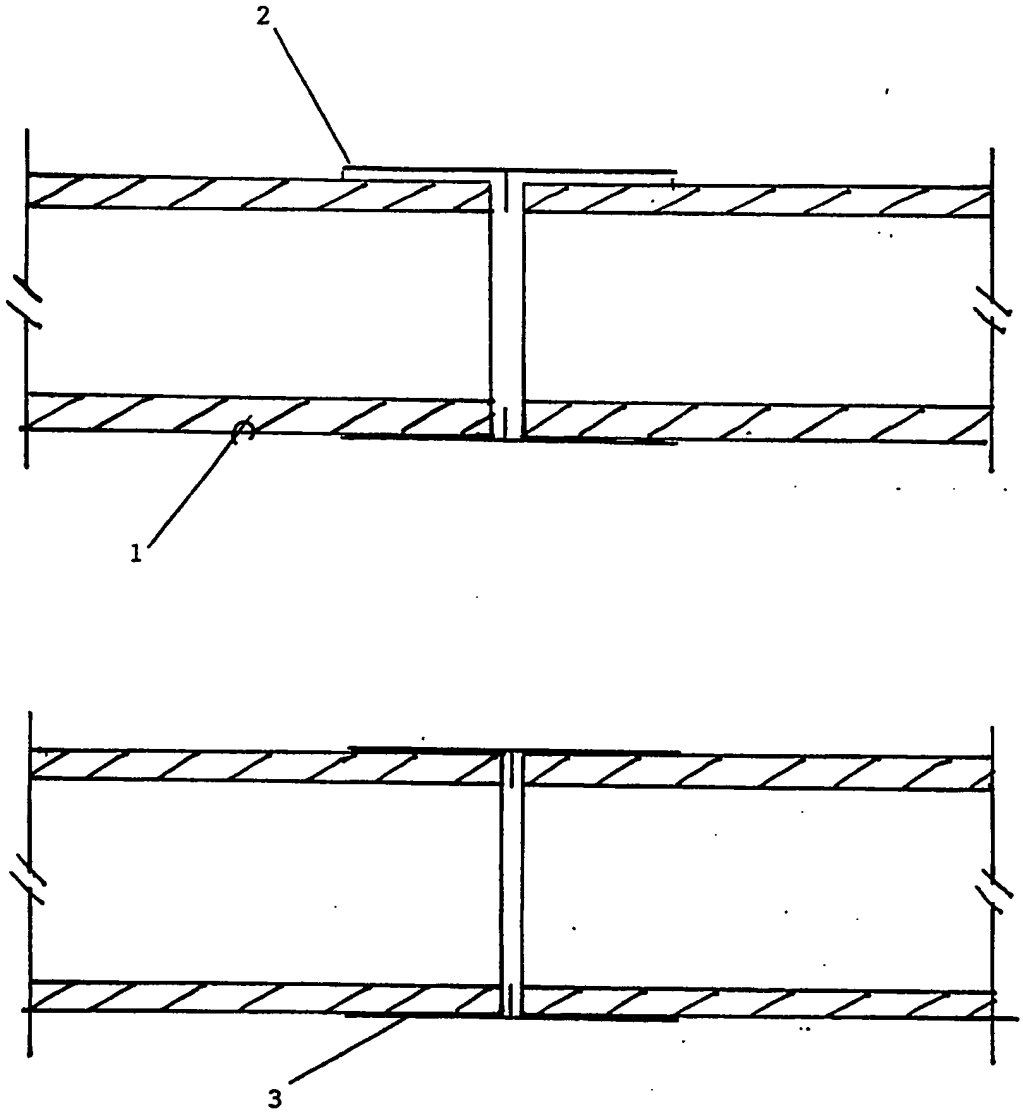


FIGURE 2.

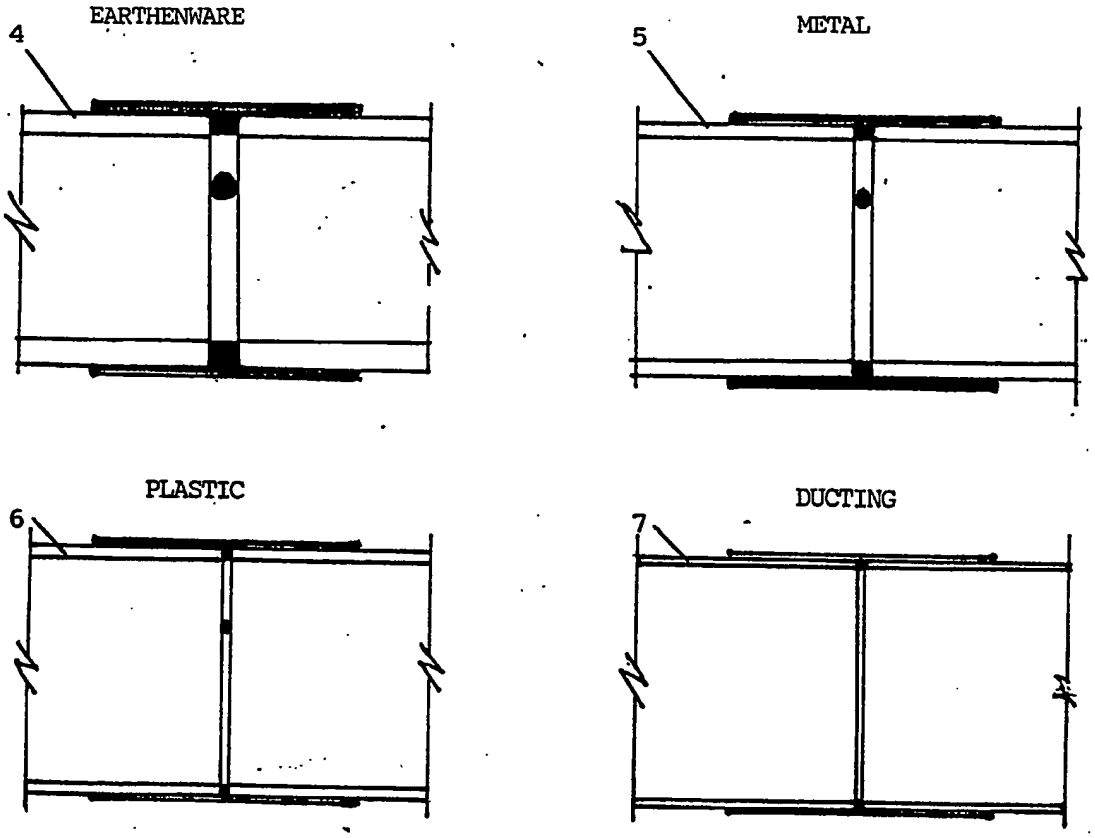
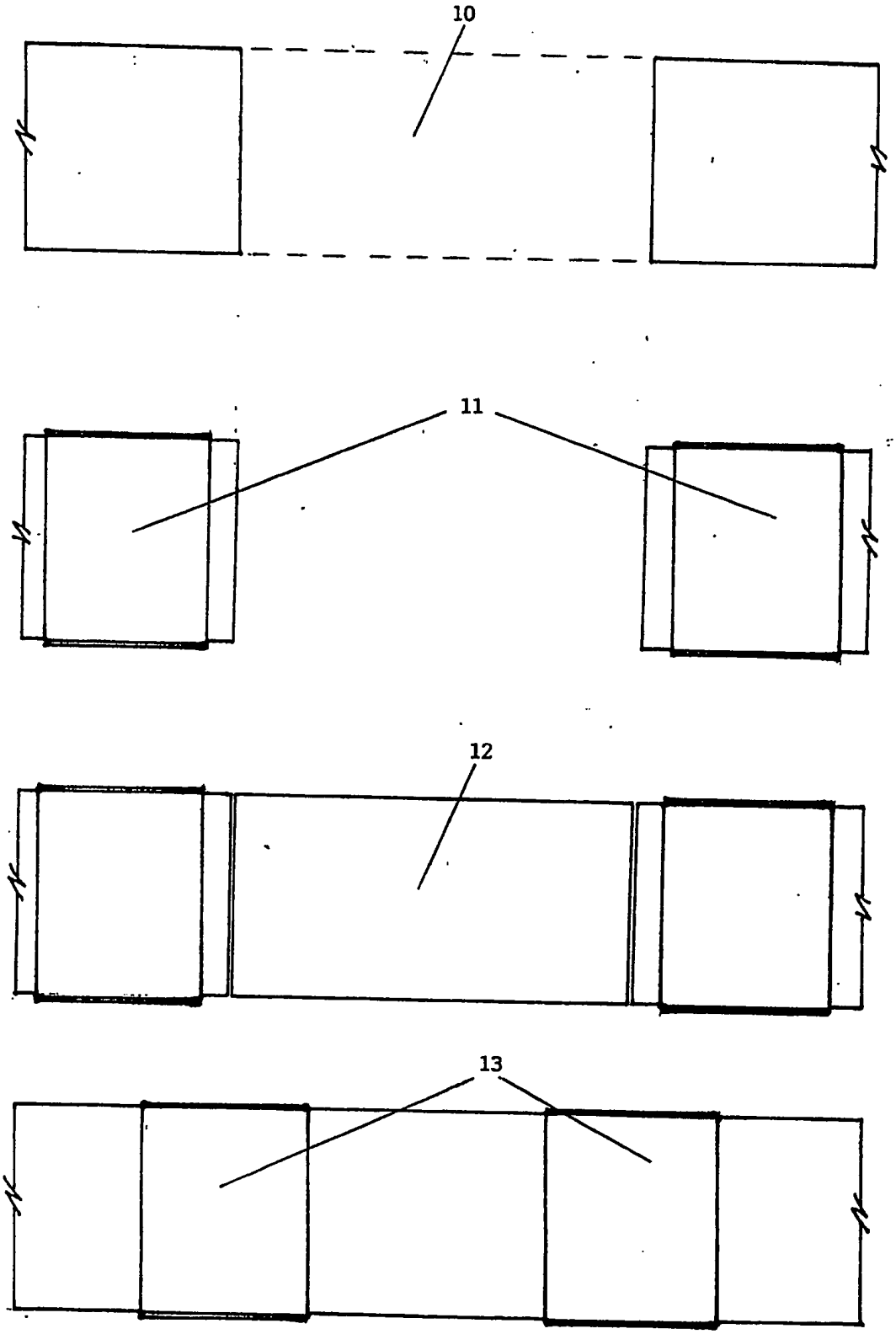


FIGURE 3.



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HEAT SHRINK PLASTIC PIPE/DUCT/CONDUIT JOINTING COUPLERS

This Invention relates to Heat Shrink Plastic Pipe/Duct/Conduit Couplers.

Jointing couplers are a recognised way of jointing together pipes,ducts and conduits but usually require a push-fit form,rubber sealing rings and lubricants,adhesives or a collar and spigot design.
They are relatively expensive and difficult to form in site conditions and often fail, either allowing the contents to escape or allowing the ingress of outside or surrounding compounds.

According to the present invention there is provided a hollow plastic sleeve or sheath with an internally moulded annular section which seats between the ends of the sections to be jointed. The sections to be jointed do not require any special profile or section.
The formed plastic coupler is then shrunk fit-by the application of heat over the ends of the sections to be jointed and forms the required all-embracing compressive seal.
The integrity of the seal remains intact even though the pipe/duct/conduit may flex in use.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:-

FIGURE 1. Shows in section a coupler in position before and after completion.

FIGURE 2. Illustrates couplers in position on earthenware,metal,plastic and ducting on straight and curved sections on new work.

FIGURE 3. Shows the sequence of operations in a repair.

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Referring to the drawings a coupler 2 is placed over the ends of two sections 1 and the integrally moulded centering flange fits between the two ends.
Heat is applied externally to the coupler which shrinks and adheres to the outer surfaces of the sections to be jointed,Figure 1.
For new work Figure 2 shows the coupler in applications on earthenware,4 metal,5 plastic,6 and ducting,7, in section on straight lengths.
Figure 2 also shows the coupler in position on curved sections,8 and 9.
Figure 3 illustrates the application of the coupler where a repair to a pipe,duct or conduit is needed. 10 is where a damaged section has been cut out and removed.
11 shows the positioning of the couplers prior to 12, where the new section has been cut and positioned in the space created and 13 shows the final position of the couplers to complete the repair.

The coupler 2 in Figure 1 can be manufactured in clear or colour-coded plastics and can be of plain or re-inforced texture and have an additional adhesive compound applied to its internal contact surfaces.

The section of the coupler can be plain or regular, tapered, corrugated, ribbed and given identifying markings.

The shape of the coupler can be circular, oval or polyagonal to suit the application to which it may be put.

CLAIMS

1. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers in the form of hollow sleeves or sheaths with an integrally formed centering cushion seal.

2. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers as claimed in claim 1. wherein the coupler is of clear or colour-coded plastic.

3. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers as claimed in 1 and 2 wherein the section of the coupler will be plain or regular, tapered, corrugated, ribbed and given identifying markings, and also have an additional adhesive compound applied to its internal contact surfaces.

4. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers as claimed in claim 1,2 and 3 wherein the shape of the coupler can be circular, oval or polyagonal to suit the application.

5. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers as claimed in 1,2,3,and 4, wherein the coupler will be re-inforced with metal or plastic strands or woven metal or plastic fabrics.

6. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers as claimed in claims 1,2,3,4,and 5, wherein the means is provided to joint wood and other materials.

7. A range of Heat Shrink Plastic Pipe/duct/conduit Jointing Couplers substantially as described herein with reference to Figures 1-3 of the accompanying drawings.

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Patents Act 1977
Examiner's report to the Comptroller under Section 17 (The Search Report)

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Relevant Technical fields

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(ii) Int Cl (Edition 5) F16L 47/00, 47/02

Search Examiner
R J DOWNING

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search
30 JULY 1993

Documents considered relevant following a search in respect of claims 1-7

Category (see over)	Identity of document and relevant passages		Relevant to claim(s)
X	GB 2181201 A	(HEPWORTH IRON) - see Figure 1; page 1, line 103 - page 2, line 22; page 2, line 38 - page 3, line 7	1-4, 6
X	GB 1146169	(HEPWORTH IRON) - see page 1 lines 70-79 and Figures 3 and 4	1,2,4,6
X	GB 1009219	(HENRY HAWKINS) - see the whole document	1,2,4,6

Category	Identity of document and relevant passages -5-	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

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